
Translating stem cell research to cardiac disease therapies: pitfalls and prospects for improvement.

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Public Summary:

Over the past 2 decades, there have been numerous stem cell studies focused on cardiac diseases, ranging from proof-of-concept to phase 2 trials. This series of papers focuses on the legacy of these studies and the outlook for future treatment of cardiac diseases with stem cell therapies. The first section by Drs. Rosen and Myerburg is an independent review that analyzes the basic science and translational strategies supporting the rapid advance of stem cell technology to the clinic, the philosophies behind them, trial designs, and means for going forward that may impact favorably on progress. The second and third sections were collected as responses to the initial section of this review. The commentary by Drs. Francis and Cole discusses the review by Drs. Rosen and Myerburg and details how trial outcomes can be affected by noise, poor trial design (particularly the absence of blinding), and normal human tendencies toward optimism and denial. The final, independent paper by Dr. Marban takes a different perspective concerning the potential for positive impact of stem cell research applied to heart disease and future prospects for its clinical application.

Scientific Abstract:

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